GRANULAR AND MULTIPHASE FLOWS

Sponsored by

Mechanics Research Communications and the Granular Science Laboratory

Prof. Katherine J. Strandburg

DePaul University College of Law
Chicago, IL

April 28, 2008
11:30 a.m. – 1:00 p.m
Guttenberg Information Technologies Center (GITC) room 3740

Modeling Innovation by a Kinetic Description of the Patent Citation System

We report on results of a network theory approach to the study of the United States patent system. We model the patent citation network as a discrete time, discrete space stochastic dynamic system. From patent data we extract an attractiveness function, $A(k,l)$, which determines the likelihood that a patent will be cited. $A(k,l)$ shows power law aging and preferential attachment, the exponent of the latter is increasing since 1993, suggesting that patent citations are increasingly concentrated on a relatively small number of patents. In particular, our results appear consistent with an increasing patent "thicket", in which more and more patents are issued on minor technical advances.

Katherine J. Strandburg is visiting Associate Professor of Law at New York University School of Law. Her home institution is DePaul University College of Law, where she teaches patent law, cyberlaw, trademark and copyright law, and information privacy law. Her research interests are in patent law; science and technology policy; law and network science; social norm theory; and information privacy law. Professor Strandburg obtained her law degree from the University of Chicago Law School with high honors in 1995 and served as a law clerk to the Honorable Richard D. Cudahy of the U.S. Court of Appeals for the Seventh Circuit. She is an experienced litigator and is licensed to practice before the United States Patent and Trademark Office. Prior to her legal career, Professor Strandburg was a research physicist at Argonne National Laboratory, having received her Ph.D. from Cornell University in 1984 and done postdoctoral research at Carnegie Mellon. She was a visiting faculty member of the physics department at Northwestern University from 1990-1992. Her recent collaborative work returns to these roots, using a statistical physics approach to analyze the patent citation network. Results of that work have been published in both law and physics journals.

For further information, please contact Dr. A. Rosato, ME Department (rosato@njit.edu; 973-596-5829), or Ms. Barbara Valenti (Valenti@njit.edu; 973-596-3332)